ALLENROLFEA MEXICANA LUNDELL (CHENOPODIACEAE): ITS CONSPECIFICITY WITH A. OCCIDENTALIS (S. WATS.) KUNTZE

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In a study of some recent collections from Coahuila, Mexico, we were in some doubt as to the identity of certain *Allenrolfea* specimens collected on 27 January 1974 from calcium-baked soil, near the swimming hole (a warm spring) along the highway to Torreón, 9 miles SW of Cuatro Ciénegas (*Jänsen 026, Meyers 004, & Parfitt 564,* all in OSH!). Our specimens are entirely in fruit, and have seeds up to 1 mm long, whereas numerous manual descriptions of *A. occidentalis* (Correll & Correll, 1972; Correll & Johnston, 1970; Davis, 1952; Munz & Keck, 1968; Reed, 1969; Shreve & Wiggins, 1964; Standley, 1922; Wooton & Standley, 1915) allow seed length of only 0.6–0.8 mm. Further, all the works cited above exclude *A. occidentalis* from Coahuila.

Therefore, we investigated the possibility that our plant might be *Allenrolfea mexicana* (Lundell, 1936). Johnston (1944) very amply documented the occurrence of *A. occidentalis* in Coahuila, but his report was apparently overlooked by the post-1944 authors cited above, as it was by Muller (1947) who reported only an "*Allenrolfea* sp." from Coahuila. Lundell says in the protolog, in part, "*Allenrolfea mexicana* differs from *A. occidentalis* (S. Wats.) Kuntze, the Utah form, in being distinctly larger. The woody stem of *A. mexicana* may exceed 2 cm in diameter; the flowering spikes are as much as 6 cm long; and the flowers are regularly 1–3 in the axils of the apical bracts and 3–7 in the axils of the basal bracts. In *A. mexicana* the time of anthesis varies from the apex to the base of the spike, and from the center of the flower aggregate in each axil toward the extremities.

"*Allenrolfea occidentalis* is a smaller form, generally woody only at the base. It has three flowers in the axil of each bract, all of which apparently reach anthesis at about the same time." Lundell further characterizes his species as having "seeds . . . slightly exceeding 1 mm in length" and "branchlets fleshy . . . , internodes 3 to 4 mm thick," and "stigmas . . . each about 1 mm long."

Dr. Rogers McVaugh kindly lent us an isotype of Lundell's plant from a lake at Santo Domingo, San Luis Potosí (*Lundell*

5603, MICH). Examination of the Lundell plant, and comparison with authentic specimens of *A. occidentalis* from Utah (Salt Lake City, Utah. September, 1900. *Cameron Mann 13414.* WIS) and California (San Joaquin County. Shrub 8 feet high, San Joaquin delta, near Holt. 20 September 1928. *Mason 4965.* WIS) revealed that Lundell's plant falls entirely within the range of variation of *A. occidentalis* as that species is generally understood. Mason's plant is up to 8 feet tall, a character which Lundell considered diagnostic for his *A. mexicana;* the degree of woodiness in *A. occidentalis* is highly variable, and the woodiness is not confined to the base, as Lundell and many manuals suggest. Spike length is extremely variable; on the isotype of *A. mexicana,* the longest spike is 2.5 cm long, with many being less than a centimeter long, which falls within the range of *A. occidentalis.* With respect to the pattern of anthesis within the spike and within the axil of each bract, the spikes of, for example, *Mann 13414* appear identical in every respect to those on *Lundell 5603.* Seed length on our Coahuila specimens of *A. occidentalis* varies from 0.8–1.0 mm, and the Mann specimen from Salt Lake City (the type locality) has seeds up to 1 mm long. In *A. mexicana,* the internodes of the branchlets are said by Lundell to be 3–4 mm in width, but the isotype specimen has branchlets only up to 2 mm thick, which demonstrates the degree of variability in this character, even in the type collection. With respect to stigmas, the length of those on the isotype is only 0.5 mm, not 1 mm as Lundell states in the type description; in all specimens of *A. occidentalis* cited here, the stigmas are likewise only 0.5 mm long.

Because we can find no distinguishing characters, we therefore conclude that *Allenrolfea mexicana* Lundell is conspecific with *A. occidentalis.*

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